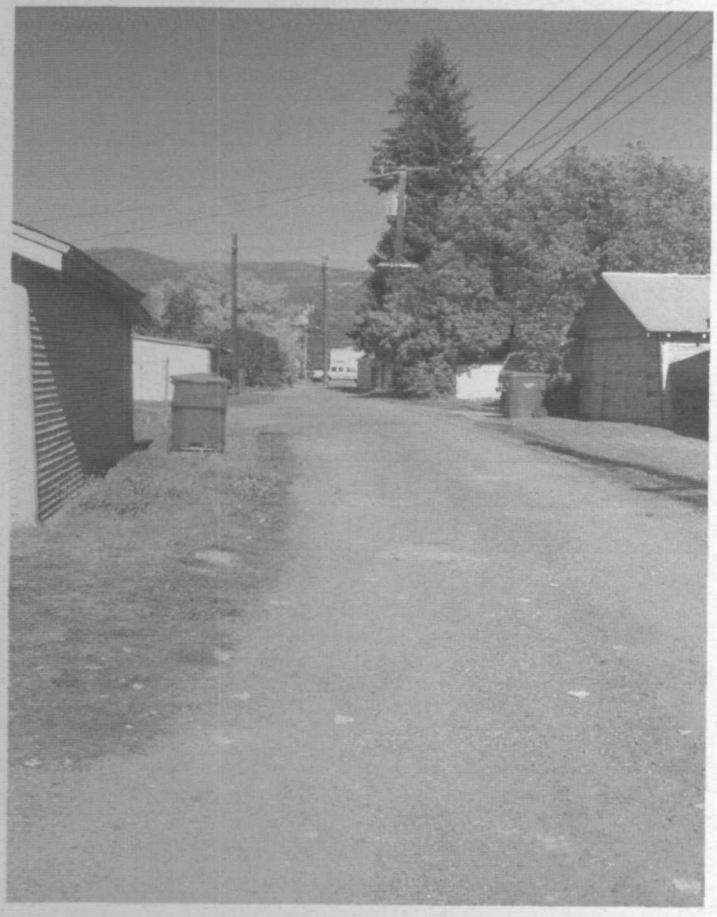
CDM

Contaminant Screening Study
Libby Asbestos Site, Operable Unit 4
Libby, Montana

Final Sampling and Analysis Plan Addendum for City of Libby Alley Investigation

October 2003



Sampling and Analysis Plan Addendum

Response Action Contract
for Remedial, Enforcement Oversight, and Non-Time
Critical Removal Activities at Sites of Release or
Threatened Release of Hazardous Substances
in EPA Region VIII

U.S. EPA Contract No. 68-W5-0022

Final Sampling and Analysis Plan Addendum for City of Libby Alley Investigation, Contaminant Screening Study, Libby Asbestos Site, Operable Unit 4

October 14, 2003

Work Assignment No.: 137-RIRI-08BC
Document Control No.: 3282-137-PP-SAMP-18833

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Contents

Acronyms

AHERA	Asbestos Hazard Emergency Response Act
bgs	below ground surface
CDM	CDM Federal Programs Corporation
CIC	community involvement coordinator
CSF	close support facility
CSS	contaminant screening study
EPA	Environmental Protection Agency
FSDS	field sample data sheet
GPS	global positioning system
LA	Libby amphibole
PM	project manager
RAC	response action contract
SAP	sampling and analysis plan
SOP	standard operating procedure
SQAPP	sampling and quality assurance project plan
TEM	transmission electron microscopy

Section 1
Introduction

This addendum outlines the site-specific requirements to conduct surface soil sampling and air sampling in alleys within the City of Libby, Montana. All rationale, data quality objectives, quality assurance procedures, and standard operating procedures (SOPs) from the contaminant screening study (CSS) sampling and analysis plan (SAP) Revision 1 will apply to soil sampling (CDM Federal Programs Corporation [CDM] 2003a). All rationale, data quality objectives, quality assurance procedures, and SOPs detailed in the "Phase 1 SQAPP" (Sampling and Quality Assurance Project Plan Revision 1 for Libby, Montana, Environmental Sampling for Asbestos, Baseline Sampling for Source Area and Residential Exposure to Tremolite-Actinolite Asbestos Fibers [Environmental Protection Agency [EPA] 2002) will apply to air sampling.

1.1 Location and Background

Consistent with other areas of Libby, vermiculite may have been used throughout alley ways within the city. There are approximately 125 alleys within the city limits of Libby (Figure 1). The average length of each alley is approximately 300 feet. To determine if vermiculite and/or Libby amphibole (LA) is present in alleys, all alleys will be visually inspected and soil samples collected. Air sampling will also be conducted in selected alleys to determine if the dust disturbed by typical alley traffic may contain LA. Air sampling will be conducted at four randomly selected alleys in each of the following categories:

1. Vermiculite visible
2. Vermiculite not visible
3. LA detected in analytical results
4. LA not detected in analytical results

1.2 Objectives

The objectives of this addendum are to present site-specific surface soil sampling and air sampling plans to conduct remedial investigation activities for alleys within the City of Libby.

Section 2
Field Activities

As discussed in the CSS SAP Revision 1, CSS activities will consist of verbal interviews, visual inspections, and surface soil sampling. In addition to the CSS activities, air sampling will also be conducted along selected alley ways.

2.1 Verbal Interview

A verbal interview to discuss concerns and obtain historical information about the alleys will be conducted with Dan Thede, the city supervisor. The verbal interview will be used to gather any information regarding the known use of vermiculite in alley ways. This information will be recorded in the field logbook.

2.2 Visual Inspection

CDM field personnel will conduct an inspection for visible vermiculite of all alley ways identified in Figure 1. Field notes will be collected on the presence or absence of visible vermiculite regardless of construction material (asphalt, gravel, etc.). All notes regarding a specific alley will reference the alley number as shown on Figure 1.

2.3 Soil Sampling

The soil sampling process, as discussed in the CSS SAP Revision 1, will involve the following steps:

- Locate the sample location and select composite subsample locations
- Collect samples from composite locations
- Complete the sample field forms included in Attachment 1 (e.g., record subsample locations)
- Decontaminate all nondisposable sampling equipment

2.3.1 Sample Locations and Rationale

One sample will be collected from each alley not constructed of asphalt (or other non-soil/gravel material) to determine potential Libby amphibole concentrations. Samples will be composites with the subsamples collected every 50 feet and will alternate from left, to center, to right (Figure 2). Composite sampling will be implemented in order to provide representative sampling results for the entire alley way. The following sections describe sample collection, field form completion, and decontamination procedures.

2.3.2 Sample Collection

Surface soil samples will be collected from all alleys not constructed of asphalt. Sampling is expected to last approximately 10 to 12 days.

Surface soil samples will extend from the surface to approximately 6 inches below ground surface (bgs). All surface samples will be collected in accordance with procedures identified in the CSS SAP Revision 1 (CDM 2003a).

Samples will consist of subsamples collected every 50 feet along the length of each alley. QC samples will be collected in accordance with the CSS SAP with the exception that equipment blanks will be collected each day of sampling (CDM 2003a).

2.3.3 Field Form Completion

For each sample collected, a field sample data sheet (FSDS) for soil (Attachment 1) will be completed. Each form will identify the samplers, sample identification numbers, location of subsamples and will be completed in accordance with SOP CDM-LIBBY-03, Completion of FSDS. The sample identification number associated with the sample point will be in the form of CS-######. For each sample collected, a global positioning system (GPS) point will be recorded from the center location of the subsamples. For each subsample location, the distance from the north or west end of the alley will be recorded. Any obstacles or reasons for movement or deletion of a sample or subsample will be recorded on the FSDS. The number of the alley from Figure 1 will also be included in the comments section of the FSDS.

2.3.4 Decontamination

All decontamination will be conducted in accordance with the CSS SAP Revision 1 (CDM 2003a). All non-disposable sampling equipment will be decontaminated between sample locations but will not be decontaminated between subsample locations.

2.4 Air Sampling

Air sampling will be conducted in accordance with the Phase 1 SQAPP (EPA 2002). Air sampling will be conducted at randomly selected alley ways in Libby to determine if LA is present in airborne dust disturbed by normal alley traffic.

2.4.1 Sample Locations and Rationale

Four samples will be collected from each of 16 alleys, four alleys in each of the four categories discussed below. Based on the average alley length of 300 feet, the samples will be located 50 feet from each end of the alley away from entry streets then 50 feet toward the center of the alley from each of the end samples (Figure 2). These locations were chosen to reduce the interference of airborne dust disturbed on nearby streets and be representative of the entire length of the alley. Air sampling will be conducted in alleys that run north/south (parallel prevailing wind lines based on historical meteorological data).

2.4.2 Sample Collection

Air sampling will be conducted at four alleys in each of the following four categories:

1. Vermiculite visible
2. Vermiculite not visible
3. LA detected in analytical results
4. LA not detected in analytical results

High volume air sampling pumps will be calibrated to a primary flow meter immediately before and after each sample is collected. The flow rate will be selected to obtain optimum filter loading on the filter. The samples will be collected over an 8-hour period. Sample collection is expected to take 10 days. Sampling will occur at alleys in categories one and two after soil sampling and visual inspections are completed. Sampling will occur at alleys in categories three and four after soil sample results have been received and evaluated.

Project personnel will drive down each alley being sampled four times during the day of air sampling to ensure dust is disturbed in the area.

2.4.3 Field Form Completion

For each sample collected, a FSDS for air (Attachment 2) will be completed. Each form will identify the samplers, sample identification numbers, and location of samples. The sample identification number associated with the sample point will be in the form of CS-######. For each sample collected, a GPS point will be recorded.

Color Map(s)

The following pages contain color that does not appear in the scanned images.

To view the actual images, please contact the Superfund Records Center at (303) 312-6473.

Figure 1
Alley Sampling Locations
Libby, Montana

Alley Locations

N

W E

S

Feet

0 400 800 1,600

CDM

Figure 2
Locations of Soil and Air Sampling for Alleys

Soil Sampling Locations
Air Monitoring Locations

N
W
E
S

0 25 50 100 150 200 Feet

CDM

Section 3
Sample Analysis and Data Validation

Soil samples will be prepared for analysis following the Close Support Facility (CSF) Soil Preparation Plan (CDM 2003b). The analytical program that will be used for identifying LA in soils will be determined following the current performance evaluation study being conducted by EPA. Once a determination is made regarding the analytical approach, this SAP will be amended. EPA is currently developing data validation criteria for soil sample results. When these procedures are established, this SAP will be amended to include these procedures.

Air samples will be analyzed by transmission electron microscopy (TEM) method 40 CFR Part 763 Final Rule (AHERA 2002).

When sample data packages are received, the response action contract (RAC) project manager (PM) will coordinate the data validation and entry of qualifiers added during validation to results in the Libby project database. The data validation procedures are currently under development by EPA. When these procedures are finalized, this document will be amended. The RAC PM will notify the community involvement coordinator (CIC) as samples are validated and results are available from the Libby project database. The CIC will draft an initial letter format, and CDM will then complete a letter to City of Libby detailing the results of the investigation and additional information regarding any necessary further activities.

Section 4
References

AHERA. 2002. Asbestos Hazard Emergency Response Act 40 CFR, Chapter I, Subchapter R, Part 763, Subpart E, Appendix A. Federal Register 2 FR 41846, October, 1987. Data current as of the Federal Register dated May 2002.

CDM 2003a. Final Sampling and Analysis Plan, Remedial Investigation, Contaminant Screening Study, Revision 1. May

_____. 2003b. Soil Preparation Plan, Remedial Investigation, Contaminant Screening Study, Libby Asbestos Site, Operable Unit 4. April

EPA 2002. Sampling and Quality Assurance Project Plan Revision 1 for Libby, Montana, Environmental Sampling for Asbestos, Baseline Sampling for Source Area and Residential Exposure to Tremolite-Actionlie Asbestos Fibers. January

Attachment 1
Soil Field Sample Data Sheet

Sheet No.: CSS-S- _____

CONTAMINANT SCREENING STUDY/REMEDIAL INVESTIGATION
FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Scenario No.: NA Field Logbook No:_____ Page No:_____ Sampling Date: _____

Address:_____Owner/Tenant:_____

Business Name: _____

Land Use: (circle) Residential School Commercial Mining Roadway Other ( )

Sampling Team: (circle) CDM MACTEC Other _____ Names:_____

Data Item	Sample 1	Sample 2	Sample 3
Index ID			
Location ID			
Sample Group			
Location Description (circle)	Back yard Front yard Side yard Driveway Other _____	Back yard Front yard Side yard Driveway Other _____	Back yard Front yard Side yard Driveway Other _____
Category (circle)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	Surface Soil Other _____	Surface Soil Other _____	Surface Soil Other _____
Type (circle)	Grab Comp. # subsamples _____	Grab Comp. # subsamples _____	Grab Comp. # subsamples _____
Sample Time			
Top Depth (in.)			
Bottom Depth (in.)			
Field Comments Note if vermiculite is visible in sampled area	BD-_____	BD-_____	BD-_____
Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)	Completed by_____	QC by_____

Attachment 2
Air Field Sample Data Sheet

Sheet No.: R-SA-_____

REMOVAL ACTION SAMPLING
LIBBY, MONTANA FIELD SAMPLE DATA SHEET
STATIONARY AIR

Scenario No.: NA Field Logbook No:_____ Page No:_____ Sampling Date: _____

Address: _____ Owner/Tenant:_____

Business Name: _____

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other _____ Name(s): _____

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID			
Location ID			
Sample Group			
Location Description			
Category (circle)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Matrix Type (circle)	Indoor Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Filter Diameter (circle)	25mm 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8	TEM- .45 PCM- 0.8
Flow Meter Type (circle)	Rotometer DryCal NA	Rotometer DryCal NA	Rotometer DryCal NA
Pump ID Number			
Flow Meter ID No.			
Start Date			
Start Time			
Start Flow (L/min)			
Stop Date			
Stop Time			
Stop Flow (L/min)			
Pump fault? (circle)	No Yes NA	No Yes NA	No Yes NA
MET Station onsite?	No Yes NA	No Yes NA	No Yes NA
Pre/Post (circle)	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA	Pre Post Clear 2nd Clear 3rd Clear NA
Field Comments	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No	Archive Blank (circle): Yes No
QC (Field Team) _____ Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

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